16. RANGE EXTENSION OF *SALMOSTOMA SARDINELLA* (OSTEICHTHYES: CYPRINIDAE) TO STREAMS OF TAMIL NADU, KERALA AND KARNATAKA PART OF WESTERN GHATS[1]

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Valenciennes (1842) described *Salmostoma sardinella* from Myanmar. Day (1875-1878) recorded it from the Irrawadi river at Myanmar. Talwar and Jhingran (1991) reported its distribution in Ganges, Brahmaputra drainage, and Orissa. Distribution of this species was from West Bengal (Ganges river system), Assam (Brahmaputra river system), Orissa (Mahanadi river basin) and from Bangladesh, Myanmar, Pegu and Moulmein Myanmar (Jayaram 1999; Menon 1999). Recently, it has been recorded from Mondai stream in Maharashtra (Arunachalam *et al.* 1999). The present record of the species is from Manjal stream (11° 42' 8.7" N; 76° 22' 4.6" E) in Muthanga (Wynaad) Wildlife Sanctuary, Sivasamudram (near Ganganachukki bluff in Karnataka (12° 14.5' N; 77° 9' E) Pillur dam and Moyar river (Gugalthurai 10° 45' N; 76° 53' E) in Tamil Nadu.

Description

D iii 7; A iii 17-18; P 12; V i 7

Body elongated and compressed; depth 4.25 to 4.5 times in standard length; dorsal profile equally convex as ventral profile. Abdomen keeled from below pectoral fin to vent. Head small, its length 3.9 to 5.3 in SL. Mouth supraterminal, oblique; lower jaw with a rudimentary symphysial process. Gill rakers 15 to 18 on first arch. Dorsal fin inserted just opposite to the origin of anal fin. Scale medium; lateral line with 48-51 scales; lateral transverse scale rows; 7 rows of scales between lateral line and dorsal fin base, and 2 rows of scales between lateral line and pelvic fin base; predorsal scales 27. Morphometric characters of the specimens examined are given in Table 1.

Colour: In life, dorsa greyish-green, flanks silvery and

Table 1: Morphometric measurements of *Salmostoma sardinella* in four streams in the Cauvery river basin

Proportion	Manjal N=1	Pillur N=2		Sivasamudram N=1	Gugalthurai N=1
		Range	Mean		
Total length (mm)	99	141-143	142	72	86
Standard length/Head length	5.31	4.96-5.08	5.02	5.42	4.60
Standard length/Body depth	5.89	4.70-4.91	4.80	6.12	4.83
Standard length/Predorsal length	1.61	1.48-1.53	1.50	1.54	1.55
Standard length/Post dorsal length	3.12	3.07-3.25	3.16	2.74	3.09
Standard length/Pectoral fin	3.86	4.07-4.07	4.07	4.18	3.71
Standard length/Pelvic fin	7.22	7.52-7.54	7.53	7.48	-
Standard length/Caudal fin	5.18	4.5-6.05	5.27	5.00	4.05
Standard length/Prepelvic	2.12	1.98-2.12	2.05	2.14	-
Head length/Eye diameter	2.06	3.51-3.58	3.54	2.88	2.72
Head length/Innerorbit width	2.05	5.71-6.49	6.10	7.85	6.74
Head length/Snout length	7.97	1.76-1.98	1.86	2.17	1.71
Head length/Pectoral fin	0.72	0.80-0.82	0.81	0.77	0.80
Head length/Pelvic fin	1.36	1.48-1.51	1.49	1.38	-
Length of caudal peduncle/Height of caudal peduncle	3.20	4.20-4.50	4.30	4.50	4.72
Pelvic to Anal fin/Pectoral to Pelvic fin	0.72	0.70-0.84	0.77	0.71	-

fins yellow. After preservation, dorsa pale brown, flank pale yellow, and fins remain yellow.

Distribution: Irravadi river (Myanmar); Poonpun river, Patna, Ganga, Brahmaputra drainage, Mahanadi river (Menon 1999), Mondai stream in Maharashtra (Arunachalam *et al.* 1999), Manjal stream in Kerala; (Gaganachukki bluff) Sivasamudram (Gaganachukki bluff) in Karnataka, Bhavani (Pillur) and Moyar rivers in Tamil Nadu.

Remarks: *Salmostoma sardinella* prefers closed riparian cover except in Sivasamudram Falls; the habitat parameters are given in Table 2. Though the extension range covers Tamil Nadu, Kerala and Karnataka parts of the Western Ghats, the distribution of *Salmostoma sardinella* is still confined to the tributaries of Cauvery basin originating from these three states.

Table 2: Habitat features of four streams

Parameters	Manjal	Sivasumdram	Gugalthurai (Moyar)	Pillur (Bhavani)
Riparian cover (%)	60	Open	30	41.5
Mean with (m)	9.8	200	19.4	63.46
Depth (cm)	56.5	130	54.6	62
Flow (m/sec.)	0.22	0.64	0.06	0.44
Bedrock (%)	15	90	20	10
Boulders (%)	45	5	60	5
Cobbles (%)	12.5	5	10	10
Gravel (%)	22.5	-	6	-
Sand (%)	2.5	-	4	72.5
Leaf litter (%)	2.5	-	-	2.5

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REFERENCES

Arunachalam, M., A. Sankaranarayanan, A. Manimekalan, R. Soranam & J.A. Johnson (1999): New record of *Salmostoma sardinella* (Pisces: Cyprinidae) from Mondai stream, Maharashtra. *J. Bombay Nat. Hist. Soc. 96(1)*: 162-163.

Day, F. (1875-78): The Fishes of India: being a Natural History of the fishes known to inhabit the seas and fresh waters of India, Burma and Ceylon. London, Indian Reprint by Jagmander Book Agency, New Delhi. xx + 778 pp., 195 plates.

Jayaram, K.C. (1999): The Freshwater Fishes of the Indian region. Narendra Publishing House, Delhi, 551 pp.

Menon, A.G.K. (1999): Checklist – Freshwater fish of India, Rec. 201. Zoological Survey of India, Occ. Pap No. 175. 366 pp.

Talwar, P.K. & A.G. Jhingran (1991): Inland Fishes of India and Adjacent Countries. Oxford and IBH publishers. Co. Pvt. Ltd., New Delhi, pp. 1058.

Valenciennes, A. (1842): *Hist. Nat. Poiss. 17*: 334.

17. ON A RECORD OF A YOUNG TERATOID *CARCHARHINUS HEMIODON*[1]

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The 'vulnerable' *Carcharhinus hemiodon* (Compagno *et al.* 2003) is one of the 30 species of Family Carcharhinidae (Class: Elasmobranchii, Order: Carcharhiniformes). Commonly called the Pondicherry Shark, and locally 'Palsura', it is distributed in the Indo-West Pacific: Gulf of Oman to Pakistan, India, Sri Lanka and scattered localities in the eastern Indian Ocean and western Pacific Ocean. It attains a maximum size of up to 200 cm total length, and is viviparous and harmless. Carnivorous in nature it preferably feeds on small fishes, crustaceans and cephalopods (Compagno and Niem 1998). It fetches high commercial and market value due to its tasty flesh and oil content.

C. hemiodon (length 1.45 m and weight 3.5 kg) was caught during September 2004 using trawl net from the coastal